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Dr. Maurice Leatherbury, Senior Director of Academic Computing Services, continues to provide you with updates on campus computing. This month you'll find out more about the Microsoft Campus Agreement and plans to expand and augment the present student E-mail system.

[UNT Internet Service E-mail Upgrade News](#)

The long-awaited event has finally taken place! Read this article and find out how the change will affect you.

New 5/20/1999 -- Important upgrade information has been added to this page.

[Account Renewal Time](#)

If you purchased a Premium Remote Access Service subscription for the spring semester, and you want to keep it, you will need to renew it A.S.A.P. If you weren't associated with UNT last semester and you don't enroll for Summer I or Summer II, your UNT Internet Account will be disabled in mid-July. Details for renewal of both these services are contained in this article.

[GroupWise "Everyone Mail" a Problem](#)

Every semester, as people are rushing to complete classes and end-of-semester activities

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increase, there is a corresponding increase in the use of GroupWise to send mail to "everyone." This article is a reminder about the official policies for GroupWise mail. A text box at the bottom of the page suggests ways to better manage your GroupWise mail.

[Before You Make that Call](#)

You can help the Helpdesk staff better assist you by being prepared to answer a few questions about the type of computer and software you are using. A list of commonly asked questions and Helpdesk contact information is found on this page.

[Help Wanted](#)

The Computing Center Support Services Helpdesk has positions open **now** for technical consultants. For details, inquire within . . .

[Free Web Help](#)

If you have a job that requires you to create and manage a Web site on top of your regular duties, this article is for you. Find out how you can get an editor, designer, and programmer to help you do your Web site -- for FREE!

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RSS Matters

By [Craig Henderson](#), Research and Statistical Support Services

What is RSS Matters?

In [February, 1999](#) we began a new series of articles. Each month, we will be discussing some advanced methods of data analysis and how they can be implemented in the software supported by the Research and Statistical Support office. Last month, [Rich Herrington](#) contributed an article on the new conjoint analysis module implemented in SPSS 9.0, [SPSS Conjoint](#). In this month's article, I will discuss multilevel modeling using SAS Proc Mixed.

Multilevel Modeling

In a nutshell, multilevel modeling (also known as hierarchical linear modeling and random coefficient modeling), is a flexible data analysis technique that involves analyzing linear models (e.g., the general linear model used in conjunction with ANOVA and regression) with a hierarchically nested structure (Bryk & Raudenbush, 1992). It is actually an adjective used to refer to the mixed effects general linear model when applied to hierarchically nested data. The classic example is of students, nested within classrooms, nested within schools, nested within school districts, etc. Another frequently used application is the analysis of individual growth models designed for exploring longitudinal data (on individuals) over time. Basically, multilevel modeling models expand traditional regression methods by dropping the assumption of independence of observations and allowing the researcher to estimate both fixed and random effects on more than one level of a hierarchical structure simultaneously. Relationships are no longer assumed to be fixed over contexts (e.g., schools, time) and therefore are allowed to differ. These models are more realistic than traditional regression models due to making less restrictive assumptions; however, as Kreft (1996) points out, this generality is not without its price. Multilevel modeling models are not parsimonious, as more parameters are estimated, the outcomes may be more sample specific, larger data sets are needed for stable solutions, and they use more complex estimation methods than the ordinary least squares method applied in traditional linear regression.

Although multilevel models are not a panacea, finally giving researchers THE statistical technique that will generate theory for you, there are several reasons that multilevel modeling is something that researchers in the social sciences need to know. First, there is the problem of nonindependence of observations. Basically, this problem involves a situation in which clusters of individuals in an analysis have more in common with each other than other individuals. Situations in which this would be obvious are students in the same classroom, and family members in the same family. If traditional methods are used in these cases, standard errors will be underestimated, leading to an increased probability of a Type I error. However, other problematic situations are less obvious. The intraclass correlation is a helpful diagnostic tool in determining if a multilevel modeling will be superior to a traditional method, such as regression or ANOVA. A rough rule of thumb is when the intraclass correlation

is over .10, hidden clusters are present in your data, and a multilevel modeling model would be a more appropriate data analysis technique.

Second, in the absence of intraclass correlation, there is no improvement of multilevel modeling over traditional models in terms of estimating fixed effects (Kreft, 1996). However, this is not the case if the researcher is interested in estimating random effects, particularly random regression coefficients. To illustrate this point, a multilevel model involves the following equations:

$$\underline{Y}_{ij} = \underline{a}_j + \underline{b}_j X_{ij} + \underline{e}_{ij} \quad (1)$$

$$\underline{a}_j = g_{00} + g_{01} Z_j + \underline{u}_{0j} \quad (2)$$

$$\underline{b}_j = g_{10} + g_{11} Z_j + \underline{u}_{1j} \quad (3)$$

where underlining indicates a random variable, X is a single predictor, and $\underline{Y}$ is the dependent variable. Index i is used for individuals, and index j is used for contexts. The error terms $\underline{u}_{0j}$ and $\underline{u}_{1j}$ indicate that the intercept $\underline{a}_j$ and the slope $\underline{b}_j$ will vary over contexts. g_{00} indicates the grand mean, while $\underline{u}_{0j}$ measures the deviation in means across contexts from the grand mean. Likewise, g_{10} represents the grand regression slope across contexts and $\underline{u}_{1j}$ the deviation in slopes from the grand slope across contexts. The equations for $\underline{a}_j$ and $\underline{b}_j$ include a fixed component, g_{00} and g_{10} , and a random component, $\underline{u}_{0j}$ and $\underline{u}_{1j}$. $\underline{u}_{0j}$ has a variance, t_{00} , $\underline{u}_{1j}$ has a variance t_{11} , and $\underline{u}_{0j}$ and $\underline{u}_{1j}$ have a covariance, t_{01} . Z_j represents a contextual level variable (e.g., school, person in the case of repeated measurements); therefore, equation (2) demonstrates that the intercept (mean) of each context is a function of the group level variable and random fluctuation. In equation (3), the slope is a function of the same group level variable and random fluctuation. The variances of $\underline{u}_{0j}$ and $\underline{u}_{1j}$ and their covariance are parameters estimated in the model, and are found in the matrix T , which has the following structure:

$$\begin{bmatrix} t_{00} & t_{01} \\ t_{10} & t_{11} \end{bmatrix}$$

In traditional regression, a and b are treated as fixed effects, and the random fluctuations are not estimated. Why is this important? By estimating the elements in the T matrix, we can examine the unique estimates for separate contexts more efficiently than by conducting separate regression equations for each context. Furthermore, we can now examine cross level interactions. An example would be the literature on aptitude by treatment interaction literature in education. Such research operates on the theory that teacher styles differ, and that some styles are more effective for certain students than for others. Instead of asking the question, what teaching methods are most effective, the more useful question of what teaching methods are most effective, for which students, in which contexts?

Multilevel Modeling in SAS PROC MIXED

In 1992 SAS introduced the PROC MIXED routine into their statistical package. It was written by agricultural and physical scientists seeking to generalize the standard linear model to incorporate both fixed and random effects and therefore did not have the needs of social scientists in mind. However, by

correctly specifying the mixed model, a researcher can fit multilevel models and individual growth curve models that have become quite popular in the social sciences (Singer, 1997). The material for this paper is provided by Singer (1997), and interested readers should study her very informative, understandable article. Using her examples, I will provide demonstrations of how to fit a "school effects" model (a model in which students are nested within schools), which is basically a cross-sectional multilevel model, used when intraclass correlation is present. Next month, I will provide an example with a longitudinal growth curve model. These examples are also provided by Bryk and Raudenbush (1992).

School Effects Model

This example uses data originally analyzed by Bryk and Raudenbush (1992). The data set contains information gathered from 7,185 students in 160 schools. The student-level (level-1) outcome variable is mathematics achievement. There is one student-level (level-1) covariate, SES and two school-level (level-2) covariates, average SES for school and sector. Analysis of multilevel models typically begins with an unconditional means model, in which the outcome variable is modeled as a linear combination of the grand mean, deviations from that mean, and random error. This is basically a one-way random effects ANOVA model.

Unconditional Means Model

The equations for the unconditional means model are as follows: At level 1, math achievement is modeled as the sum of an intercept (mean) for the students school (b_{0j}) and a random error (r_{ij}) associated with the i^{th} student in the j^{th} school:

$$Y_{ij} = b_{0j} + r_{ij} \text{ where } r_{ij} \sim N(0, s^2) \quad (2a)$$

At level 2 (the school level), the school level intercepts are expressed as a linear combination of an overall mean (g_{00}) and a series of random deviations from that mean (u_{0j}):

$$b_{0j} = g_{00} + u_{0j} \text{ where } u_{0j} \sim N(0, t_{00}) \quad (2b)$$

Substituting (2b) into (2a) yields the multilevel model:

$$Y_{ij} = g_{00} + u_{0j} + r_{ij} \text{ where } u_{0j} \sim N(0, t_{00}) \text{ and } r_{ij} \sim N(0, s^2) \quad (3)$$

This model can be partitioned into the fixed effect, g_{00} (which tells about the average math achievement score in the population), and two random effects, u_{0j} (for the intercept) and (for the within school residual) r_{ij} . Both u_{0j} and r_{ij} have variance components, t_{00} and s^2 respectively. t_{00} tells us about the variability in the school means and s^2 tells us about the variability of mathematics achievement within schools. The SAS syntax used to generate this model is as follows:

```
proc mixed noclprint covtest;
  class school;
  model mathach = /solution;
  random intercept/sub=school;
```

The CLASS statement identifies the categorical variable, in this case, school. In PROC MIXED, the MODEL statement specifies the fixed effects, and the RANDOM statement the random effects. The NOCLPRINT option prevents the printing of all CLASS level information. The COVTEST option tells SAS that you would like to run hypothesis tests on the variance and covariance components in your model. In this example, the MODEL statement appears that the dependent variable MATHACH has no predictors. In actuality, there is an implied predictor, a vector of 1's that represents the intercept. The /SOLUTION option asks SAS to print estimates for the fixed effects.

The RANDOM statement is the most critical and trickiest part about fitting multilevel models. There is always one random effect, the level-1 within group residual (r_{ij}). In the syntax above, we are also specifying a second random effect, that in addition to being a fixed effect, the intercept should be treated as a random effect (t_{00}) in equation (3). "The SUB= option specifies the multilevel structure, indicating how the level-1 units are divided into level-2 units" (Singer, 1997, p. 7). In this example, the SUB= option is indicating that individuals are nested within schools. I will refer you to Singer (1997) to for the output and interpretation of this model.

Including Effects of Level-2 Predictors

In multilevel modeling, an unconditional means model is usually fitted first to provide a baseline against which more complex models can be compared. In this example, I will demonstrate how to add level-2 (school-level) predictors. Again following Singer (1997), an average SES of children within a school (MEANSES) is added as a level-2 predictor. This predictor is centered about the grand mean, which facilitates the interpretation of the intercept term, g_{00} . The equation for fitting this model is included below:

$$Y_{ij}=b_{0j} + r_{ij} \quad \text{and} \quad b_{0j}=g_{00} + g_{01}MEANSES_j + u_{0j} \quad \text{where } r_{ij} \sim N(0,s^2) \text{ and } u_{0j} \sim N(0,t_{00}) \quad (4)$$

Substitution yields the following:

$$Y_{ij}=[g_{00} + g_{01}MEANSES_j] + [u_{0j} + r_{ij}] \quad (5)$$

In this example, the fixed and random effects are separated by brackets.

The SAS syntax to generate the following model is included below:

```
proc mixed noclprint covtest;
  class school;
  model mathach = meanses/solution ddfm=bw;
  random intercept/sub=school;
```

In this example, we have added the fixed effect MEANSES to the MODEL statement. Other level-2 predictors can be added as well, as is appropriate for

your analysis. The option /DDFM=BW tells SAS to use the between/within method for computing the denominator degrees of freedom for fixed effect hypothesis tests.

Including Effects of Level-1 Predictors

The following example will demonstrate adding level-1 predictors to the school-effects model. The level-1 predictor used in this example is the SES of the individual students (as opposed to the MEANSES level-2 variable used in the previous example).

The equations to fit this model are included below:

$$Y_{ij}=b_{0j} + b_{1j}SES_{ij} + r_{ij} \text{ (6)}$$

$$b_{0j}=g_{00} + u_{0j} \text{ (6a)}$$

$$b_{1j}=g_{10} + u_{1j} \text{ (6b)}$$

where $r_{ij} \sim N(0,s^2)$ and

$$\begin{bmatrix} u_{0j} \\ u_{1j} \end{bmatrix} \sim N \begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{bmatrix}$$

By adding the fixed effect for student SES, we have now interjected another random effect in our model. That is, not only are we stating that a student's mathematics achievement is related to his/her SES but this relationship can vary across schools. Equations (6a) and (6b) indicate that both intercepts (b_{0j}) and slopes (b_{1j}) can vary across schools; therefore, a variance component can be estimated for the intercepts, the slopes, and a covariance component can be estimated, representing the correlation between intercepts and slopes. These variances and covariances are represented in the T matrix,

$$\begin{bmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{bmatrix}$$

The SAS code to fit this model is included below:

```
proc mixed noclprint covtest;
  class school;
  model mathach = ses/solution ddfm=bw notest;
  random intercept ses/sub=school type=un;
```

The MODEL statement includes a fixed effect for SES. The RANDOM statement includes two random effects, one for the intercept, and one for the SES slope. The TYPE=UN option specifies that the variance-covariance matrix for the intercepts and slopes (the T matrix) should be unstructured.

Including Both Level-1 and Level-2 Predictors

In many models, researchers will want to include both level-1 and level-2 predictors. In the following example, we will fit a model with student SES (a level-1 predictor) and school SES and school sector as level-2 predictors. The equations for this model are found below:

$$Y_{ij}=b_{0j} + b_{1j}SES_{ij} + r_{ij} \text{ (7)}$$

$$b_{0j}=g_{00} + g_{01}MEANSES_j + g_{02}SECTOR_j + u_{0j} \text{ (7a)}$$

$$b_{1j}=g_{10} + g_{11}MEANSES_j + g_{12}SECTOR_j + u_{1j} \text{ (7b)}$$

where $r_{ij} \sim N(0,s^2)$ and

$$\begin{bmatrix} u_{0j} \\ u_{1j} \end{bmatrix} \sim N \begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{bmatrix}$$

This model is very similar to that fit with equations (6) - (6b), only including fixed effects for MEANSES and SECTOR. The number of random effects stays the same. Fitting this model involves the following SAS syntax:

```
proc mixed noclprint covtest;
  class school;
  model mathach=meanses sector ses meanses*ses sector*ses/
    solution ddfm=bw notest;
  random intercept ses/type=un sub=school;
```

As can be seen in the example above, this model merely involves expanding SAS syntax we have covered previously.

Next month, I will include an article on fitting longitudinal growth-curve models with SAS. I hope you find these exercises helpful in your research. Please feel free to contact me with any suggestions, comments, or questions, craigh@unt.edu. Enjoy!!!

References

Bryk, A. S., & Raudenbush, S. W. *Hierarchical linear models*. Newbury Park, CA: Sage Publications.

Kreft, I. G. G. (1996). Are multilevel techniques necessary? An overview including simulation studies. Multilevel Models Project. <http://www.ioe.ac.uk:80/multilevel/workpap.html>.

Singer, J. D. (1997). Using proc mixed to fit multilevel models, hierarchical models, and individual growth models. *The Journal of Educational and Behavioral Statistics*, in press.

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Network Connection

By [Dr. Philip Baczewski](#), Associate Director of Academic Computing

Know Your Mail Header

With E-mail so much in the [news](#), I decided to revive a "Network Connection Classic" which has as much relevance today as when it was originally written about 4 years ago. It is hard to comprehend how much Internet use has increased in those 4 years. Access methods have changed as well. Chances are that 4 years ago, you would have sent Internet E-mail from a central multi user system (CMS or UNIX). Now most E-mail is done from a PC desktop using client/server programs like Simeon or GroupWise. However, the following information hasn't changed. Standards are still what make the Internet work, and this E-mail protocol remains the same, regardless of how you are sending the E-mail.

So, the only thing that has changed is your mail program and system. The rest remains the same. Understanding the content of an E-mail header can provide you with useful information about where your mail came from and how it got to you. The one additional piece of information you may need to know is how to see your full mail header. In Simeon, when reading a message, select "Raw Header" from the view menu. In Pine, use the command, "h", when viewing a message. In GroupWise, the header often appears as an attachment to the mail message. The only other thing that has changed is that the "former employee" referred to below is once again a current employee and happily back in the UNT fold. - PCB

Go to the head of the class

If you have received Internet mail, you may have noticed all that stuff at the top which we technical types like to call the mail header. The part you usually notice may be the Date:, To:, From: and Subject: fields, but some other parts may be useful on occasion as well. The basic rules for constructing mail headers are known by most E-mail programs and are described in a document known as RFC 822 (RFC stands for Request for Comment and RFCs are numbered sequentially as they are published on the Internet).¹ It is the standardization of these header fields that allow differing computer systems to easily transmit mail across the Internet.

By examining a typical message header, we can gain further understanding of the different fields and perhaps gain additional insight for interpreting messages which have delivery problems or a less than clear origin.

What follows below is a typical Internet mail header. It was part of a message sent to me by one of UNT's former staffers. At first glance, it might seem quite a jumble, but by analyzing different sections, it's interpretation becomes quite a bit easier.

```
Received: from UNTVM1 by VM.ACS.UNT.EDU (Mailer R2.07) with BSMT  
id 3111; Wed, 21 Dec 94 13:30:17 CST  
Received: from is.rice.edu by VM.ACS.UNT.EDU (IBM VM SMTP V2R1)  
with TCP; Wed, 21 Dec 94 13:29:46 CST  
Received: from brigadoon.rice.edu by is.rice.edu (AA28265); Wed,  
21 Dec 94 13:28:48 CST  
Message-Id: <9412211928.AA28265@is.rice.edu>  
X-Sender: kevinm@is.rice.edu  
X-Mailer: Windows Eudora Version 1.4.3
```

```
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Wed, 21 Dec 1994 14:30:59 -0600
To: ac12@vm.acs.unt.edu
From: kevinm@is.rice.edu (Kevin Mullet)
Subject: Kermit snippet
```

Deconstructing a header

It may help to examine this header in reverse. From the bottom up, the first part should be familiar:

```
Date: Wed, 21 Dec 1994 14:30:59 -0600
To: ac12@vm.acs.unt.edu
From: kevinm@is.rice.edu (Kevin Mullet)
Subject: Kermit snippet
```

The last section, shown above, has the date, sender's address, recipient's address, and the message subject. This is the easy part. The rest might need more explanation.

```
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
```

The above two lines indicate that the mail program used to send the message supports the MIME protocol (allowing multimedia attachments). The first line shows the MIME version used and the second line shows the nature of any attachments, in this case simply a text-only message.

Working our way up the header, we find the following two lines:

```
X-Sender: kevinm@is.rice.edu
X-Mailer: Windows Eudora Version 1.4.3
```

Any field starting with an "X" indicates an extension to the normal header fields. Extensions can be inserted by the mail program (and sometimes by the mail program user) and provide information which may not be part of a standard header or which might be useful to the receiving mail program when processing an incoming message. These two lines confirm the sender of the message and indicate what mail program was used to send it.

Every Internet message is given an arbitrarily assigned message identification and this is shown in the following line:

```
Message-Id: <9412211928.AA28265@is.rice.edu>
```

You can see that the message ID above is partly formed from message date (941221 is derived from Dec. 12, '94) and ends with the originating node.

The first three lines of the header show the path your message took to reach you:

```
Received: from UNTVM1 by VM.ACS.UNT.EDU (Mailer R2.07) with BSMTTP
id 3111; Wed, 21 Dec 94 13:30:17 CST
Received: from is.rice.edu by VM.ACS.UNT.EDU (IBM VM SMTP V2R1)
with TCP; Wed, 21 Dec 94 13:29:46 CST
Received: from brigadoon.rice.edu by is.rice.edu (AA28265); Wed,
21 Dec 94 13:28:48 CST
```

There are actually three header fields defined here, each beginning with the "Received:" header element. These are listed in the reverse order of actual transmission. Examining these

one at a time from the bottom up we can see the path that this message traversed to reach me.

```
Received: from brigadoon.rice.edu by is.rice.edu (AA28265); Wed,  
21 Dec 94 13:28:48 CST
```

The above line shows that the message started from a machine named "brigadoon.rice .edu" and was transmitted to "is.rice.edu".

Moving up our header example we see:

```
Received: from is.rice.edu by VM.ACS.UNT.EDU (IBM VM SMTP V2R1)  
with TCP; Wed, 21 Dec 94 13:29:46 CST
```

The computer, is.rice.edu transmitted the message to vm.acs.unt.edu (UNT's academic mainframe). The Received field also shows what software facility handled the transaction. In the parentheses above, we can see that this was received by the IBM VM SMTP software (the Internet mail program).

Finally, the message gets to me:

```
Received: from UNTVM1 by VM.ACS.UNT.EDU (Mailer R2.07) with BSMTP  
id 3111; Wed, 21 Dec 94 13:30:17 CST
```

VM's Mailer program is the software that actually delivered the message to my CMS User-ID. You will also notice that each "Received:" field shows the time that the mail transaction (the passing of the message from one computer system to another) occurred. If you think your mail is delayed in arriving, you can check the Received fields to see if it is getting "stuck" at some point along the way.

Class dismissed

That's the end of "Headers 101" and hopefully, this has been a revelation of some of that Internet "mystery." You can find out more by reading RFC 822 or any number of Internet books that are available commercially. I can't reveal all the Internet mysteries here, however. After all, you have to hold back some of those mysteries if you are going to be considered a guru.

1. If you are interested in reading some RFC documents you can find a source at <http://www.rfc-editor.org/rfc.html>.

Comments, Questions? Send them to [Philip Baczewski](#).

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List of the Month

Each month we highlight one Internet, USENET Special Interest Group (SIG), or similar mailing list.

ResearchBuzz -- Internet Research News

According to the list owner, "the purpose of this list is to keep you updated on the available Internet research resources online." It appears to be a valuable source of information.

To subscribe: Send a **blank message** to join-researchbuzz@lists.lyris.net

Web Interface: <http://www.researchbuzz.com/news/>

List Owner: owner-researchbuzz@lists.lyris.net

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Secure Web Transactions with Secure Socket Layer

We are beginning to replace many of our physical transactions with Web-based transactions. In particular, those transactions that we usually use a telephone for (e.g. ordering flowers for Mom or paying for school via a credit card) are being affected. There is little doubt that these Web-based transaction environments are an improvement over waiting in line or being on hold for an endless amount of time. Of course since you are not dealing with a "person," you may have concerns about providing personal or credit card information to a Web site. I've given some seminars on Internet commerce and when I ask the question "Who's afraid to give their credit card number to a Web site like Amazon.com," the majority of people agree they are afraid. But most of these same people say they don't have a problem giving the same number out to a person on the phone or to a waiter who disappears with their credit card in a restaurant.

I'm going to spend the rest of this article explaining why Web transactions are actually more secure than purchasing over the phone or even in person!

Secure Socket Layer: Encryption for the masses

Right around the release of version 2.0 of Netscape Navigator, Netscape created a new protocol for securing Internet transactions called Secure Socket Layer (SSL). While this protocol has now become an official open standard called Transport Security Layer (TSL), most people still refer to it as simply SSL.

SSL is designed to improve the Internet security model in three ways:

1. Encrypt the data transmitted over the public Internet.
2. Provide better assurance that a site "really" is who they say they are .
3. Provide for a more secure mechanism for user authentication (not widely used -- yet).

Data on the Internet (and Intranets or Extranets) are, by default, sent "in the clear". This means that anyone can steal data from the network, read it or even change data in route. It's also fairly easy to have a site "impersonate" a different site.

We solve the first problem by encrypting data so that it makes it very hard for someone who has obtained data in route to read it (but not impossible, if given enough time. Luckily, with the sophisticated encryption algorithms we have today, it would take longer than the known history of the universe to break the code).

We protect ourselves from "man in the middle attacks" by three mechanisms in SSL:

1. We make a digest of our original message and send that to the other machine, who then recomputes the digest. If the message is changed even the slightest (such as by 1 character) the digests will not match, so we assume the message has been tampered

with.

2. We use public/private keys to encrypt/decrypt the message. The server has its private key and it gives the client (e.g. your Web browser) its corresponding public key. Items encrypted with the private key can only be decrypted with the public key and vice versa.
3. When we initially connect to the server, we are presented with a certificate. The certificate lists who the server should be (by its domain name like www.unt.edu), who the organization is supposed to be, the time the certificate is good for, and who issued the certificate, called the Certificate Authority (CA).

The CA is a third party who can issue the certificates necessary for SSL. Essentially we (clients) must trust the CA to do a good job at verifying who the server is who wants the certificate. This is similar to the trust we have when we fly on a commercial airline. We assume the pilot is good enough to fly us safely because, among other things, he's been issued a pilot's license by the FAA.

Some CA's, such as Verisign, are in the business of issuing certificates, and any certificates issued by Verisign are automatically trusted by Netscape Navigator/Communicator and Internet Explorer. If a CA is not already in the CA database in your browser, you'll be asked if you want to import the CA or not. If you don't trust the CA (and in turn don't believe you can trust the security of the site you are visiting), your browser will not set up a SSL connection.

A trusted certificate virtually guarantees that you are indeed talking to the correct server, as opposed as simply calling a phone number, which may or may not be located at the company you think it is.

Finally, in general, data from Web sites goes straight to a protected database, without having to be reentered by hand. This is much more secure than giving your credit card number to a minimum wage clerk who then disappears to enter the number into the credit card verifier. During the time they are entering the number to be verified they could write it down to use later.

There are things SSL can't solve and these plague any system you use, electronically or in person:

1. The business may only be in business to get your personal information to either rob you or to sell your information to others.
2. A dishonest employee at the company could break into the user database and steal your information.

In the end, I feel that I'm at least as secure ordering things off the Internet as I am ordering things over the phone. I know the connection is protected from "sniffers" and that, at least, a trusted third party has verified the identity of the organization I'm buying from.

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Short Courses

By [Claudia Lynch](#), *Benchmarks Editor*

Summer Short Course schedules are being finalized. They will most likely begin the second week of June. Follow [this link](#) for to see the types of courses that will be offered.

Customized Short Courses

Faculty members can request customized short courses from ACS, geared to their class needs. Other groups can request special courses also. Contact ACS for more information (ISB 119, 940-565-4068, lynch@unt.edu).

Especially for Faculty and Staff Members

In addition to the [ACS Short Courses](#), which are available to students, faculty and staff, staff and faculty members can take courses offered through the [Human Resources](#) Department, the [Center for Distributed Learning](#), and the UNT Libraries' [Multimedia Development Lab](#).

Center for Distributed Learning

The Center for Distributed Learning offers courses especially for Faculty Members. Topics include Windows 95, PowerPoint, Video Conferencing, and a series of classes concerning putting course materials on the World Wide Web using WebCT®.

The center offers a "Brown Bag" series which meets for lunch the first Thursday of each month at Noon in ISB 204. The purpose of this group is to bring faculty members together to share their experiences with distributed learning. One demonstration will be made at each meeting by a faculty member with experience in distributed learning. Each meeting is followed, for those interested in using WebCT®, by a one hour orientation for beginners in ISB 203. More information on these activities can be found at the [Center for Distributed Learning](#) Web site.

Distributed Learning Crash Course

Who Is It For? Faculty members interested in integrating technology with their classes to distribute their course content at a distance.

Course Overview: Basic steps needed to publish your syllabus, notes, PowerPoint presentations, and assignments on the Web, to communicate electronically with your classes, and teach using videoconferencing.

When Is It Offered? May 17-20, 1999 or August 16-19, 1999

Check out <http://www.unt.edu/cdl/dlcourses.htm> for a detailed course

schedule, course descriptions, and online registration. If you need additional information about the classes, contact Kim Crawford at 940-565-2708.

UNT Libraries'

The UNT Libraries' Multimedia Development Lab has also offered free training to all University of North Texas faculty and staff in the basics of FrontPage 98 and information architecture in the past. For more information visit the Multimedia Development Lab's home page at <http://www.library.unt.edu/mmdl>

Free Teleconference

COPYRIGHT IN THE NEW MILLENNIUM: THE IMPACT OF RECENT CHANGES TO U.S. COPYRIGHT LAW

Date: Friday, May 21, 1999

Time: 11:00 - 2:00 p.m. CDT

Location: Willis Library, Room 035, University of North Texas

Who may attend: Interested faculty, staff, students

Registration required: None

A Teleconference co-sponsored by: American Association of Law Libraries; American Library Association; Association of Research Libraries; Medical Library Association; Special Libraries Association.

Hosted by: George Washington University Library

Endorsed by: Coalition for Networked Information; EDUCAUSE

Questions: Contact [Sharon Almquist](#), Media Library, phone: 940-565-4702

Technical Training

Technical Training for campus network managers is available through the Campus-Wide Networks division of the Computing Center. Some of the [seminars](#), such as one on disaster recovery/business continuity planning techniques, may be of interest to others on campus as well.

Alternate Forms of Training

The [Training](#) Web site has all sorts of information about alternate forms of training. Training tapes, Computer Based Training (CBT) and Web-based training are some of the alternatives offered. There are also handouts for

computer training (Microsoft Office 97 and Windows 95) on the following topics:

- GroupWise 5.2 -- Handout for Win95/NT
- FAQ for GroupWise 5.2
- Info on GroupWise for Win3.1
- Computers - Back to the Basics
- Introduction to Windows 95
- Introduction to Word 97
- Advanced Word 97 - MailMerge It Together
- Introduction to Excel 97
- Introduction to PowerPoint 97
- Introduction to Remedy (THE Call-Tracking Program)
- Using Netscape Communicator and the UNT Home Page

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IRC News

Minutes provided by Sue Ellen Richey,
Recording Secretary



IRC Regular Voting Members: Ginny Anderson, Fiscal Affairs; Donna Asher, Administrative Affairs; Walter Bowen, Academic Administration; Bill Buntain, Communications Program Group; Sue Byron, Faculty Senate; Carolyn Cunningham, Student Affairs; Don Grose, Libraries; Jenny Jopling, Instruction Program Group; Joneel Harris, Administrative Program Group; Allen Livingston, Graduate Student Council; Dennis Mueller, Research Program Group (on Sabbatical); Ramu Muthiah, School of Community Services; Jon Nelson, College of Music and Standards & Cooperation Program Group; Robert Nimocks, Director, Information Technology, UNTHSC; Steve Oeffner, UNT Health Science Center Russ Pensyl, School of Visual Arts; Patrick Pluscht, Distributed Learning Team; Jim Poirot College of Education; Mark Rorvig, Research Program Group (acting for Dennis Mueller who is on Sabbatical); Kathleen Swigger, College of Arts and Sciences; Neal Tate, University Planning Council; Philip Turner, Associate Vice President of Academic Affairs for Distance Education and Dean of the School of Library and Information Resources (Chair, IRC); Virginia Wheeless, Chancellor; John Windsor, College of Business. **IRC Ex-officio Nonvoting Members:** Leslie Bowden, Telecommunications; Wil Clark, GALMAC; Jim Curry, Microcomputer Maintenance Shop; Michael Forster, UNT Health Science Center; Richard Harris, Computing Center; Coy Hoggard, Computing Center; Maurice Leatherbury, Computing Center; Sue Ellen Richey, Computing Center (Recording Secretary). [As of 1/99]

April 20, 1999

Distributed Computing Support Management Team

Maurice Leatherbury reported for the Distributed Computing Support Management Team that it has been involved in two issues in its most recent meetings:

1. a study of position descriptions of computing support staff at UNT to insure that people with appropriate qualifications are hired to fill the available positions;
2. the Dell Laptop purchase and support program has been re-evaluated following its first year of operation.

One hundred twenty laptops have been sold by Microcomputer Maintenance Shop with resulting problems of breakage due to negligence or carelessness by the users, as well as lack of knowledge or training as to the operation of the laptops. Jim Curry has suggested that, since Dell will not repair machines that are broken due to negligence; if MMS repairs them, the repair cost will be passed through to the user department.

Neal Tate raised a question about the repair of the laptops, inferring that if MMS plans to repair the laptops, they should add a certain percentage to the purchase price to cover repairs of any kind. It is understood that laptops are more likely to be broken than desktop computers, since they are carried around. Neal cautioned that if departments think that they will have to pay for repairs of laptops, then they will hesitate to use them, for fear of breaking them. Neal agreed that users of laptops should use caution when carrying them around; however, when one is broken, MMS should treat the repair just like they handle repairs of desktop machines. The Chair asked that Maurice bring this issue to the attention of

the DCSMT.

Instruction Program Group

Jenny Jopling reported for the Instruction Program Group that they have been discussing the issue of General Access Lab computers having necessary instructional software installed on them. The committee is documenting what software is needed in the labs and will present the information to the General Access Lab Committee. They are also discussing the possibility of making a headphone jack more accessible on GAL computers, the cost of which would be \$10.00 per machine. The committee is also discussing the popularity of E-Book Readers and the possibility of UNT adopting a standard device.

Year 2000 and the Administrative Program Group

Joneel Harris reported for Year 2000 as well as the Administrative Program Group. The APG has been focusing on Y2K testing in the new Administrative computing environment with all the latest software releases loaded in the LPAR created for testing. They have actually repeated the testing that was conducted prior to the Christmas break. She reported that everything is going very well, although there are some batch reports still to be tested in the area of Payroll and Personnel. There are also some large batch jobs in the student area to be tested. Joneel also reported that a purchase order has been issued to UNT's current voice response system vendor for an upgrade to that system which will make it Y2K compliant. The program group has also been discussing the need for web development strategies in an effort to expedite the development of more web applications in all areas. A grant has been applied for that could provide funding for web development.

Research Program Group

Mark Rorvig reported that Dennis Mueller officially resigned as Chair of the Research Program Group. The members of the group will meet soon to elect a new chair.

Standards & Cooperation Program Group

Elizabeth Hinkle-Turner reported for the Standards & Cooperation Program Group that they have begun preparation of a report which will show what uses faculty and staff are making of their computers. This information will allow the committee to develop a list of supported processes showing what hardware and software is recommended for those processes.

Distributed Learning Team

Patrick Pluscht reported that the Distributed Learning Team meets every Thursday. Their recent discussions have been about copyrights and intellectual property rights. They have been working with Leslie Bowden in Telecommunications regarding an increase in ISDN rates. The Teaching with Technology Grants have been awarded. Maurice Leatherbury reported that 19 or 20 grants were awarded in the amount of \$99,995.00 Patrick added that 17 of them had multi-media components written in them.

TIF Grant Request

Maurice Leatherbury reported that the TIF grant was sent out on Friday, April 16th. The amount requested was \$1,459,093; which was requested for upgrades of the Libraries' server machines, including their on-line catalog, CD ROM servers, plus adding some software to

provide universal client access for the library catalog. In addition, data communications switches for the campus backbone upgrade were included; a new switch for video conferencing; a multipoint control unit which will allow connection of 8 simultaneous video sites, and 2 or 3 new video-conferencing rooms; some equipment in the Center for Distributed Learning for the production of multi-media content; seven high-end workstations and other production machines plus an upgrade to the College of Music's multimedia production machine.

Alliance for Higher Education Meeting

Maurice Leatherbury also reported that last Wednesday, Bill Buntain, Patrick Pluscht and he went to a meeting called by the Alliance for Higher Education, in Los Colinas, because AHE is interested in setting up a connection to a GigaPOP in the Dallas region for Internet II connectivity. The grant proposal that Dr. Rorvig submitted stated that UNT would connect to a GigaPOP but exactly where was uncertain. Quite a number of universities in the Dallas area were represented at the meeting, as well as representatives from Alcatel and Nortel, who are corporate members of Internet II. UNT has not identified the funding to connect to Internet II, but they want to continue to work with AHE to see what will be needed to accomplish the link to the new network. The Alliance wants to explore the possibility of joining together to establish a Dallas GigaPOP. The Alliance has a fiber spine that connects TCU, UT Arlington, UT Southwestern and UT Dallas so these schools would not have to pay for T3 lines to connect to the GigaPOP. UNT would have to pay to connect, possibly \$150,000 to \$200,000 a year. SMU was granted one of the NSF grants and will be connecting to the Internet backbone in June. A committee member from UNT will be appointed to work with the Alliance task force to find out what is needed to join in their effort. Bill Buntain clarified that Qwest already has a GigaPOP in Dallas and AHE is trying to allow universities to join under the auspices of AHE. Buntain also indicated that his group is investigating less expensive ways to get a circuit to Dallas.

Maurice added that AHE is gathering bids from various service providers to get the commodity backbone and UNT's technical plan would be for UNT to get 45mb from here to the spine and then split off the Internet II traffic to that backbone of network and thereby have a faster connection to the Internet. There are still a lot of questions about how to do that.

There being no further business, the meeting was adjourned at 2:40 p.m.

IRC Meeting Schedule

The **IRC** generally meets on the third Tuesday of each month, from 2-4 p.m., in the Administration Building Board Room. An exception to that schedule occurred in March of 1999 when it met on the second Tuesday to accommodate the Spring Break schedule.

All meetings of the IRC, its program groups, and other committees, are open to all faculty, staff, and students.

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Staff Activities

Transitions

The following are new employees:

- **Neda Salahi**, Campus Information Operator (part-time).
- **Moses Omane-Boateng**, returning as a part-time computer equipment operator.

The following people no longer work in the Computing Center:

- **Jeannie Lee**, part-time Clerical Assistant.
- **Stan Sawyer**, UNT/HSC Fiscal Data Systems Programmer/Analyst.
- **Kevin Lamonte**, part-time Helpdesk Consultant.
- **Kevin Joiner**, part-time Helpdesk Consultant.

Awards

- **Craig Henderson**, Research and Statistical Support Services, was selected as the Outstanding Graduate Student of the Psychology department. A Counseling Ph.D. candidate, Craig specializes in Gerontology studies and statistics, under the supervision of Dr. Bert Hayslip, regent professor at the Psychology department.

Publications, Presentations

In [last month's](#) "Staff Activities" we mentioned **Mark Wilcox's** new book, *Implementing LDAP*. It turns out that the book is now one of the publisher's ([Wrox Press](#)) Top Ten Bestsellers!

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Campus Computing News

By [Dr. Maurice Leatherbury](#), Senior Director of Academic Computing

Microsoft Campus Agreement Coming Soon

The Computing Center has tentatively selected a vendor (HiEd) as its agent for the Microsoft Campus Agreement and is in the process of finalizing the Agreement (reviewing it for legal issues, preparing a purchase order, etc.). Under the Campus Agreement, UNT will have the right to install Microsoft desktop operating system upgrades, Office Professional, FrontPage, Visual Studio Professional, Backoffice Server Client Access Licenses, and MS Press' Office Starts Here Step-by-Step Interactive on all University-owned computers without paying for each license separately. **Faculty and staff** will also have the right to run one copy of the software, for school related activities, on either a laptop or desktop that they own or lease. We are working out the details on how to distribute the software to home users, but it's likely that a nominal fee (\$6.00 to \$8.00) per CD will be charged to defray the costs of duplication of the media and for administering the distribution. We expect to have the Agreement in place by the end of June.

The Campus Agreement will be in effect for one year, after which we will either renew it or remove any copies of the software that were installed during the year and purchase licensed copies through some other program. Microsoft software products that aren't covered by the Campus Agreement (such as the Windows NT Server, SQL Server, Project, etc.) will be purchased under an Open License agreement that is also being finalized.

While we don't anticipate any last-minute problems with completing these agreements, there's always the possibility that one or both of them could fall through because of unresolved issues such as our legal requirements for Year 2000 compliance or disagreements over how to count employees under the Campus Agreement.

Student E-mail System is Being Enhanced

In response to repeated requests in the past to send messages about important University events to all students, the Computing Center is in the process of enhancing the Student E-mail system. We expect to have these enhancements in place by the 1999 fall semester. While the system's specifications are still being developed, at the present time the following features are under consideration:

- All students will be required to activate free UNT E-mail accounts (currently, about 15,000 enrolled students have accounts).
- A policy will be written stating that E-mail is an official form of communication from the University to students and that students are expected to read their E-mail periodically.
- Students will be able to forward their mail to some other address if they wish, although they will be required log into our system in order to

receive some UNT-generated messages.

- Authorized individuals on campus will be able to send mail messages to groups of students based on various selection criteria, including:
 - All students
 - Classification (freshman, senior, graduate students, etc.)
 - College or school
 - Major
 - ZIP code
 - Class (CECS 5010.001, GEOL 1610.002, etc.)
- Mail messages will be composed and sent using a Web form.
- Attachments may be sent with the E-mail messages.

Because of the large volume of mail that will be possible under this system, we will be asking that senders exercise restraint in sending messages. Some guidelines that may be set are:

- Don't send messages frequently: the volume of messages could overwhelm our network and computer system plus frequent impersonal messages tend to be ignored.
- Don't send large messages or attachments (if your message is over about three paragraphs, put it on a Web page and ask students to read the message there).

An unanswered question about the system is "Who is authorized to send mass E-mail messages from the new system?" Our thinking at this time is that the instructor of a section may send messages to his/her students, department chairs may send messages to students in all the department's classes and to all majors of that department, deans may send mail to students in college/school departments or majors, and vice presidents, the chancellor, Public Affairs, and the Campus Police may send mail to all students. It's likely that this scheme will be expanded as we get further along in planning the system.

If you have any questions or comments about the mass student E-mail system, call Maurice Leatherbury at extension 3854 or E-mail him at leatherb@unt.edu.

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UNT Internet Service E-mail Upgrade News

By [Dr. Ty Young](#), UNIX Systems Administrator and [Dr. Philip Baczewski](#),
Associate Director of Academic Computing

 Please make sure and read the important [upgrade information](#) in the box below also. -- Ed.

We began talking about it in [January](#), said some more in [February](#), and had to back-off in [March](#). But the month is now May and the upgrade we've been promising all semester is here. At midnight on May 14, the process to move Internet E-mail inboxes and folders to a new mail server began. By the time you read this just about everyone's mail that once resided on the server 'jove.acs.unt.edu') should have been converted and copied over to our new, faster and more reliable server 'imap.unt.edu'. If you are one of the people affected by this change we **highly recommend** that you check out the E-mail [Service Migration FAQ](#), which details what you can expect of the new server and what it can expect of you. It is especially important for you to read the FAQ if you use **Outlook Express**, **Netscape**, or something else **other than Simeon** to read your mail.

A few things you should be aware of:

- Your E-mail address hasn't changed at all.
- The mail folders ("saved-messages", "sent-mail", etc.) you had on the old server Jove (in ~username/mail/) have been copied and converted on the new server. They're still on Jove, however, so you'll want to delete those at some point down the road to free up more space for your personal web page. Check the FAQ, mentioned above, for details on how to do so.
- Mail folders you may have in any other directory than ~username/mail/ (including subdirectories of the mail/ directory) have NOT been converted. Same goes for any binaries or executables you may have in that directory.
- Mail folders which use 'special characters' on the old system have been renamed on the new system. A special character will be converted to its ASCII representation, in octal, preceded by an underscore. Special characters are basically everything except letters, numbers, the hyphen ('-'), and the underscore ('_').
- There is now a quota on all inbox/folder storage on the new server. The quota is 15 Megabytes for inbox and/or folder storage. This quota is in addition to the 10 Megabytes of storage space already provided to you on jove.acs.unt.edu, the current mail server. Imposition of a quota should be noticeable by only a small percentage of users. It will require, however, that you delete unwanted messages or save mail to local folders in order to stay under quota and be able to continue to receive Internet E-mail.

This quota policy is necessary because we have been asked to extend the student E-mail system to the entire student population [see [Campus Computing News](#) in this issue]. Because GroupWise is the official E-mail system for active faculty and staff, budgetary support for Internet IMAP E-mail has been provided primarily to develop this system for student use. We are investigating the implementation of a faculty/staff UNIX system which could support faculty/staff Internet IMAP E-mail separate from the student system and its policies, but in the meantime, policies developed for the student E-mail system will apply to all accounts managed on that system.

If you have any questions about usage of the new E-mail system, please direct them to helpdesk@unt.edu or call (940) 565 2324.

Important Upgrade Information -5/20/99

All versions of **Netscape** previous to 4.5 **no longer work** with our new mail server. You will need to download the latest version of Netscape (4.6).

Outlook Express will still work (mostly), but you will need to modify your settings. Instructions on setting up Netscape 4.6 and Outlook Express 4.x and 5.x for our new mail server are found at: <http://www.unt.edu/helpdesk/ras/>. Please consult these pages for help in getting your mail clients configured

Our new mail server also requires that users upgrade to the latest version of **Simeon**, 4.1.5, which may be downloaded from:

<http://simeon.acs.unt.edu/simeon>

When installing the new version of Simeon, you will most likely get an error relating to a file called CTL3032.DLL. Information on how to fix this problem can be found at: http://www.unt.edu/helpdesk/ras/simeon_fix.htm

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Account Renewal Time

By [Claudia Lynch](#), *Benchmarks Online Editor*

If you purchased a **Premium Remote Access Service** subscription for the spring semester, and you want to keep it, you will need to renew it for the summer. If you weren't associated with UNT last semester and you don't enroll for Summer I or Summer II, your UNT Internet Account will be disabled in mid-July unless you take action. Details for renewal of both these services follows.

Premium Remote Access Service Renewals*

Premium Remote Access Service renewals for the summer'99 semester may be purchased in person or over the phone at the software department of the UNT Bookstore (940-565-3185). Basic subscriptions are \$30. ISDN (128kB) subscriptions cost \$60. This will take your subscription to the end of the fiscal year (through August '99). At that time you will have the opportunity of purchasing subscriptions semesterly or for an entire fiscal year.

These subscription renewals will become active Monday, 7 June 1999 and will expire on Monday, 30 August 1999. **All subscriptions that have not been renewed by Saturday, 5 June will be deactivated on Monday, 7 June 1999.** Please E-mail any questions regarding renewal to dialups@unt.edu

Forget Something?

The helpdesk staff receives a LOT of E-mail and telephone calls from people wanting to know whether or not they paid for a year of the Premium service. So Ryan Hickey, Helpdesk Assistant Manager, created a Web site that will allow people to determine that for themselves. If you're wondering about the status of your account, check it out at: <http://luna.acs.unt.edu/status.html>

Internet Service Account Renewals

People who are no longer associated with the University lose their eligibility to have access to many services, including various computing services.** The following message has been sent out to people who have been deemed ineligible to continue to have a UNT Internet Services account. The note below suggests ways to keep your account active.

We need to inform you of the status and/or verify information regarding your Unix/Internet Services account, {xxxxnnnn}.

This is the **FIRST** of two notifications you may receive from us related to your account's status.

Our information shows that you are not currently enrolled as a student or employed by the University. If our information is incorrect, then please let us know by replying to this message. **REMEMBER**, it's quite possible

that our data is incorrect, so don't panic. Just let us know, and we'll investigate further.

NOTE: if you will be registered as a student for Summer '99 by the 5th class day of Summer II '99, or if your employment at UNT can be verified by the 5th class day of Summer II '99, your account status will be automatically updated and you may disregard this message.

We are giving you this opportunity to transfer any Internet services to another provider and forward your E-mail and/or homepage before the account is disabled after the 5th class day of the second summer session (in this case, 16 July 1999.)

If you have questions regarding this message, please direct them to the Computing Center Helpdesk at (940) 565 2324 or to helpdesk@unt.edu.

Academic Computing Services UNIX Support

*Questions about PRAS? We answered some common ones in our [August PRAS renewal](#) article. The [Remote Access](#) area of the Helpdesk Web site is also chock full of information on that topic.

** Retirees may continue to have a UNT Internet Service account, however these accounts must be renewed annually. You may be asked to provide documentation of eligibility for this service due to the absence of available data on retirees at this time.

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GroupWise "Everyone Mail" a Problem

By [Sandy Burke](#), Computing Center Support Services Manager

Every semester, as people are rushing to complete classes and end-of-semester activities increase, there is a corresponding increase in the use of GroupWise to send mail to "everyone." This frequently leads to hostile responses from some recipients and even MORE "everyone mail." Due to this ongoing problem we thought it would be a good idea to reprint this article that originally appeared in the [April 1998](#) Benchmarks Online. Please see the text box at the bottom of this page to find out ways to better manage your GroupWise mail.

Please review the following guidelines for using the group setup for "everyone" mail. There are special provisions you need to make before sending out a message, as well as considering if this **IS** really important enough to send out to all mailboxes using GroupWise. I received one message 3 times!

Complaints are coming in from all over campus about the proliferation of messages, and even though we all have a delete button, there is a responsibility of the sender to make sure those receiving the message are really interested. Is this of enough interest campus wide to pay for postage? to pay for printing costs? to pay for employees to fold, label, and put in campus mail? If not, then **THIS IS THE WRONG WAY TO DISTRIBUTE YOUR MESSAGE ELECTRONICALLY.**

Please read the following guidelines as set out by the Vice Presidents and Provost last year. They are still meaningful and should be followed.

Large Group E-mail Guidelines- 2/17/97:

The Provost and all Vice Presidents recommend the following guidelines for using large E-mail groups:

1. Departments and individuals should be judicious in sending E-mail to all faculty and staff. Many recipients may consider the message to be annoying "junk mail," especially if "everyone" messages continue to proliferate at the current rate. As a general guideline, the message should be of sufficient general value that it would justify being sent as a memorandum if E-mail were not available. In other words, is the message important enough to justify sending to virtually every University employee? Campus-wide discussions should use Usenet news groups, not E-mail.
2. All large group mailings should use appropriate mail groups. A public group will be maintained in the GroupWise (GW) address directory that will include all UNT faculty and staff in the GW directory, as well as more limited groups such as department heads and account holders. Offices or individuals that make frequent or regular large group mailings, that are not official notifications to all faculty and staff, are encouraged to maintain their own groups. Messages to these groups should have an

introduction indicating willingness to remove an individual from the group if requested by return E-mail.

3. Anyone sending mail to large groups should use the GroupWise send options to conserve system resources. In the "Mail To" screen, select "send" and then "send options." For the current mail message, these options will override the typical preferences. Generally, the following send options should be selected:

- no status information
- low priority
- expiration date set to delete unopened messages in two work days
- do not notify recipients unless it is an urgent official message
- no return notification
- no reply requested

Also, from the main GW screen, select "file" and "preferences" to confirm that the "advanced" send option is set to "insert in out box." Then, if a mistake is made, the out box message may be used to "delete" the message from all "in boxes," correct it, and resend. Take care to delete from in boxes, not the out box.

Managing GroupWise "Everyone Mail"

By **Allen Bradley**, Manager, Campus Wide Networks Computing Team

If you are overwhelmed with the quantity of messages that you receive from "UNT GW Directory List *** " ["Everyone Mail"], you have at least two options for handling those messages.

1. Automatically file the incoming mail in a folder. This allows you to browse the messages at your convenience without cluttering up your main mailbox folder.
2. Alternatively, you can create a rule which automatically deletes incoming mail from that group.

For detailed instructions on setting the GroupWise rules for both of these options, browse www.unt.edu/cwn/gwrules.html . Note that these procedures **do not** prevent you from receiving "official" messages like emergency weather warnings, road closures or other important notices.

For detailed information on other GroupWise features, browse the online manual at www.unt.edu/cwn/gwmanuals.html

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Before You Make that Call

By [Samuel Goh](#), UNT Helpdesk Consultant

The truth is, computers can be a real pain. We question the value of computers all the time, even here at the Helpdesk. We understand the mess computers can make in life and we'll do the best to help you out. However, you can help us out by knowing a few things beforehand. In fact, the more you know about your computer, the easier it is to help.

The first thing we need to know is your credit card number and expiration date, and then your cumulative GPA. Well, not actually. We'll never ask you anything like that, no matter how tempting. All in all, we honestly need you to be able to answer the following questions before you call the Helpdesk:

- Do you use an IBM/Compatible or Macintosh?
- Do you use Windows 95, Windows 98, Windows 3.1, MacOS 7.1 — 7.5, or MacOS 8.5?
- Do you use Netscape 3.0, 4.0, 4.5 or Internet Explorer 3.0, 4.0, 5.0 to surf the Web?
- Do you use Netscape, Outlook Express, Simeon, or Telnet to check your E-mail?
- Are you dialing in to the [general access](#) lines or do you have a [premium](#) subscription?
- What area of the Metroplex are you dialing from?
- Did you purchase the UNT Dial-up [CD](#) from the bookstore in the University Union?
- Are you working from on-campus or off-campus?

Again, the more you know the better. You'll be ready to talk to us when you call and we'll be able to effectively fix your problem. Ultimately, you'll find your problem solved faster and quicker!

Helpdesk Contact Information

The Computing Center Helpdesk can be contacted via E-mail (helpdesk@unt.edu) or by phone (940-565-2324). TDD access is available at 1-800-RELAY-TX. Our hours are:

- **Monday-Friday**, 8:00 a.m. — 8:00 p.m.
- **Saturday**, 9:00 a.m. — noon; **phone support only** from 1:00 p.m. — 5:00 p.m.
- **Sunday**, **phone support only** from 5:00 p.m. — 10:00 p.m.



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Help Wanted

The Computing Center Support Services HelpDesk has positions open **now** for technical consultants!

- Get paid to learn about the Internet and teach others!
- Gain practical experience in computing, referral, customer service, "question negotiation" and troubleshooting computer problems by telephone.

This job consists primarily of electronic reference and I&R (Information and Referral) work in an active information center, supporting UNT faculty, staff, and students in all aspects of using computers and accessing electronic resources.

Job Specifications:

Special qualifications

Person must be able to relate well to people at all levels of technical experience. Required for consideration: great customer service skills, good communication skills, a basic familiarity with computing and networking, and demonstrated experience and skill in at least three of the following major support areas: Internet and World Wide Web navigation, remote access communications software (terminal and PPP), Windows 95/98/NT; Microsoft Office Professional suite; Novell NetWare; UNIX systems, Macintosh System 6/7 and related applications software; VM/CMS.

Duties

As a front-line computing support consultant for the Computing Center, this person helps faculty, staff, and students to be aware of and use our on-campus networked and remote access computing resources. Strong emphasis on customer service abilities. Front-line computing support includes both walk-in and telephone services. A person in this position will be responsible for proper problem diagnosis, referral, resolution, and tracking, as well as any necessary follow-up actions.

(Familiarity with the dial-in connections to UNT hosts is essential. We have added dial-in services to include PPP connectivity for Windows and Macintosh, and are supporting the use of graphical Internet applications software from home. A significant amount of our support calls are from new Internet users connecting to the hosts over our dial-in lines, especially those connecting with PPP.)

Part-time, flexible hours: normal schedule approximately 20 hours/week, scheduled between 8 a.m. and 8 p.m. Monday-Friday; 9am-5pm Saturday; 5-10pm Sunday.

Pay starts at \$ 6.00/hr.

All interested persons are invited to submit their résumé to the Computing Center, located in the Information Sciences Building, room 119.

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Free Web Help

By [Sharon Marek](#) and [Kenn Moffitt](#) , Web Developers UNT Central Web Support

Do you have a job that requires you to create and manage a Web site on top of your regular duties? Wouldn't it be nice if you could get a free editor, designer, and programmer to help you do your Web site? Besides [UNT's Central Web Support](#) , a few resources available on the Web offer you these services for free.

Site Maintenance and Editing Assistance

[Net Mechanic](#) is a great site to help you with the drudgery of site maintenance. Net Mechanic will check your pages for spelling errors, dead or broken links, improper HTML syntax, and graphic and page loading speeds. The site will also offer suggestions to help you fix any mistakes that it finds.

Image Assistance

Creating images can be a little scary without a graphic artist on your staff. Luckily, there are a few services on the Web that can help. [Net Studio](#) will create banners, headers, text and buttons -- just save the images for free use on your site. Net Studio will also allow you to upload an image and apply a filter effect such as embossing, engraving, shadow, sharpen, washout and blur.

[Cool Text](#) allows you to create really cool text graphics. You can type in a word or phrase and have the Web site apply an effect like alien glow, cool metal, crystal or neon. The image that is created can be used for banners, buttons and more on your page.

Page Design Assistance

If you know how your site is going to be organized but don't know how to design the page in an attractive and visually logical way [DesktopPublishing.com](#) has the perfect solution. [Site Kits](#) are predesigned Web site templates that include all of the navigation images, bullets, and page formatting commands. These templates are free for non-commercial use and can make even the novice Web site designer look like a pro.

If you are using Microsoft FrontPage 98 (officially supported for staff, faculty, and student organization use at UNT) , you can use a theme. The theme will apply a coordinated combination of predesigned graphics, text and page formatting. You can even apply a theme globally to the entire site at once.

Universal Access Assistance

Most new Web designers don't design with accessibility in mind. On the Web, that means designing pages that can be accessed not only by a variety of

browsers, but also by text to speech readers. The Center for Applied Special Technology (CAST) has created [Bobby](#) - a Web-based tool that analyzes Web pages for their accessibility. Once you enter your Web address, Bobby will scan your pages for universal access problems and make suggestions to improve your site's accessibility.

Interested in accessibility issues in the field of distance education? [DISinHE](#) (Disability and Information Systems in Higher Education) is an outstanding resource - and their [Good Practice Guides](#) deserve special mention.

Web Programming Assistance

You can add some of the newest tricks to your site even if you don't have a Web guru or a JavaScript programmer handy. [Builder.com](#) (one of the best resources for professional site designers) has created a group of Web enabled [Cool Tools](#) that use a wizard driven interface to write the code for you. Once it has finished your code, simply follow the directions to copy and paste the code into your page. Cool Tools helps you to create mouseovers, dynamic menus, slide shows, and image map rollovers.

Central Web Support

But don't forget about Central Web Support! We are experienced Web site designers, and supporting Web use on campus is our only job. Contact us, [Kenn Moffitt](#) or [Sharon Marek](#), for more information.